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Responsible Agencies

U.S. Department of Energy (DOE) – Lead Agency
U.S. Department of Agriculture, Rural Utilities Service Cooperating Agency

Title

Draft Environmental Impact Statement (EIS) for the Low Emission Boiler System Proof-of-Concept Project; Elkhart, Logan County, Illinois (DOE/EIS-0284)

Contacts

Copies of this Draft EIS are available from Mr. Lloyd Lorenzi, National Environmental Policy Act (NEPA) Compliance Officer, U.S. Department of Energy, National Energy Technology Laboratory, P.O. Box 10940, Pittsburgh, PA 15236-0940; telephone 412-386-6159; fax: 412-386-4604; or e-mail at 'lorenzi@netl.doe.gov'. The Draft EIS will also be accessible on the DOE NEPA web site at 'http://tis.eh.doe.gov/nepa/'.

For information on DOE's NEPA process, contact Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (EH-42), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585; telephone 202-586-4600; fax 202-586-7031; or toll-free message at 800-472-2756.

Abstract

This EIS identifies the potential environmental effects of constructing and demonstrating a 91 MW, proof-of-concept coal-fired Low Emission Boiler System (LEBS) for electric power generation. The EIS will be used for decision-making on whether or not to provide cost-shared funding to demonstrate LEBS technologies, which are expected to capture at least 96% of sulfur dioxide (SO₂), decrease oxides of nitrogen (NO_x) by 85%, and remove 99.8% of particulate matter. The LEBS technologies would be integrated into a new power generating station that would be built adjacent to an existing underground coal mine operated by Turriss Coal Company in central Illinois, about 2 miles southeast of Elkhart and 17 miles northeast of Springfield. The plant would be owned and operated by Corn Belt Energy Corporation. Current plans target a 24-month construction effort and a 6-month period to demonstrate plant performance before long-term commercial operation of the plant. The plant would burn coal from the adjacent mine and provide electricity to the local power grid. The captured SO₂ would be converted to disposal-grade gypsum, and bottom ash would be marketed for use as roadbed or construction material. Bottom ash that could not be sold and gypsum from flue gas desulfurization would be transported to a permitted site for disposal, either on Turriss Coal Company's mine property or on property owned by Corn Belt Energy.

The EIS identifies the environmental effects, including principal effects on air quality and groundwater, from constructing and operating the LEBS plant. The analysis shows that air emissions would not exceed regulatory standards used as indicators of impacts on human health, human welfare, and the environment. Water would be provided by surface water runoff and groundwater from up to six new wells. During normal conditions, surface water would supply the majority of water requirements. Under prolonged dry conditions, groundwater would provide the primary water requirements. Although the analysis indicates that sufficient water would be available for the LEBS plant and that local groundwater supplies would not be adversely affected, uncertainties regarding surface water and groundwater yields, especially under extended drought conditions, would necessitate monitoring both drawdown and water quality. Corrective actions would be initiated if monitoring results indicate that project operation could have an adverse effect. Impacts to other resource areas would be minor. Under the no-action alternative, the LEBS plant would not be built; as a result, environmental conditions at the site would not change and current environmental impacts would remain unchanged from baseline conditions.

Public Participation

Comments on this Draft EIS may be submitted through the end of the comment period on April 19, 2004. All comments will be considered in preparing a Final EIS for the proposed action. Comments received after the comment period will be considered to the extent practicable. All comments should be addressed to Mr. Lloyd Lorenzi at the address provided above.

DOE will conduct a public meeting in Elkhart, IL, to receive comments on the Draft EIS. The date, time, and location of the meeting will be announced in the *Federal Register's* Notice of Availability of the Draft EIS for the Low Emission Boiler System Proof-of-Concept Project and will be publicized in local newspapers and community announcements.